BCTCS 12

Welcome to the twelfth British Colloquium for Theoretical Computer Science, taking place at the University of Kent.

The accommodation for the meeting is in Darwin College of the university, and the daytime conference sessions will take place in the Grimond Building, in lecture theatres GLT2 and GLT3, the latter being the site for the invited lectures. The contributed papers are in twin tracks in the two rooms.

There is a quiet room for speakers' preparation — Grimond Seminar Room 5 — and a book exhibition organised by Dillons University Bookshop will be in Grimond Seminar Room 3 and will be open at coffee and tea breaks and after lunch each day

Tuesday, 2 April

9:30–10:30 Invited talk, GLT 3
Peter Aczel (University of Manchester)
Formalising abstract algebra in constructive type theory

10:30–11:00 Coffee, Grimond Foyer

Contributed papers: GLT 3

11:00–11:30 *Anthony Bailey* Extending the syntax of a type theory with a system of implicit coercions to ease the development of formal mathematics

11:30–12:00 *Alex Jones* Using type theory for the formalisation of mathematics on computers

12:00–12:30 *Simon Shiu* An Application of Type Theory to Semantic Networks

Contributed papers: GLT 2

11:00–11:30 *Russ Bubley* Approximating the volume of convex bodies: a new approach

11:30–12:00 *Chris Tofts* Efficiently Composing Distributions for Performance Modelling

12:00–12:30 *Rick Thomas* Finite Presentability of Semigroups

12:30–1:00 *Willem Visser* Using OBDD encodings for Space Efficient State Storage during On-the-fly Model Checking

1:00–2:00 Lunch, Darwin College

2:00–3:00 Invited talk, GLT 3
David Turner (University of Kent)
Total Functional Programming

Contributed papers: GLT 3

3:00–3:30 *Chris Angus* Mathematical Programming with Functional Languages

Contributed papers: GLT 2

3:00–3:30 *Judith Barnard* A refinement process for Communicating X-machines

3:30–4:00 Tea, Grimond Foyer

4:00–5:00 Invited talk, GLT 3
Michiel Smid (King's College, London)
Spanners: approximating the complete Euclidean graph

Contributed papers: GLT 3

5:00–5:30 *Graham Collins* Supporting Reasoning about Functional Programs : An Operational Approach

5:30–6:00 *Ole Jensen* An Action Calculus for Functional Programming

Contributed papers: GLT 2

5:00–5:30 *Mike Paterson* Structure from String-Folding

5:30–6:00 *Colm Toomey* Animating Specifications via Model Generation

6:00–7:30 Dinner, Darwin College

Contributed papers: Darwin Lecture Theatre 1

7:30–8:00 *Mike Holcombe* Hybrid Systems

8:00–8:30 *Justin Pearson* Timed Interaction Categories

8:30–9:00 *Anna Philippou* On Transformations of Concurrent Object Programs

Contributed papers: Darwin Lecture Theatre 2

7:30–8:00 *Jason Steggles* Formal Software and Hardware Design using Algebraic Methods

8:00–8:30 *Yong Sun* SOFL: A Formal Engineering Methodology for Industrial Applications

8:30–9:00 *Alastair Telford* Formal Methods for Accident Analysis

6:00–10:30 Bar Open, Darwin College

Wednesday, 3 April

9:00–10:00 Invited talk, GLT 3
Graham Birtwistle (University of Leeds)
Specifying and Verifying AMULET in CCS

Contributed papers: GLT 3

10:00–10:30 *Paul Dunne* Average Case Complexity Measures for Boolean Functions

Contributed papers: GLT 2

10:00–10:30 *Andrew A Adams* Machine-Assisted Meta-Theoretic Proof

10:30–11:00 Coffee, Grimond Foyer

Contributed papers: GLT 3

11:00–11:30 *Jason Emmett* The complexity of algorithms for content-addressable memory

11:30–12:00 *Mark Jerrum* A quasi-polynomial-time algorithm for sampling words

12:00–12:30 *Ida Pu* Matricial Space Economy with Constant Access Time

12:30–1:00 *Vincent Schmitt* Event structures, domains and automata

Contributed papers: GLT 2

11:00–11:30 *Matt Fairtlough* An intensional completeness theorem that connects ternary simulation with timing analysis

11:30–12:00 *Alan Hutchinson* Existence and Intuitionistic All-Elimination

12:00–12:30 *Nikos Mylonakis* Adequate encodings of proof systems in UTT

12:30–1:00 *Clive Galley* On Minimising Automata and Congruence Closure in Parallel

1:00–2:00 Lunch, Darwin College

2:00–3:00 Invited talk, GLT 3
Ed Brinksma (University of Twente, The Netherlands)
Formal Models for Testing: An Interaction between Theory and Practice

Contributed papers: GLT 3

3:00–3:30 *Jeremy Bryans* A Denotational Semantics for Real-Time LOTOS

Contributed papers: GLT 2

3:00–3:30 *Richard Cartwright* The complexity and feasibility of a purely definition-based programming paradigm

3:30–4:00 Tea, Grimond Foyer

4:00–5:00 Invited talk, GLT 3
Jacobo Toran (University of Ulm, Germany)
On the complexity of the Graph Isomorphism problem

Contributed papers: GLT 3

5:00–5:30 *Athina Christodoulou* Modelling Discrete Distributions in WSCCS

5:30–6:00 *Tim Glover* A Verification of Parallel Associative Combinator Evaluation using Pi Calculus

6:00–6:30 *Dhiya Al-Jumeily* Implementing Rewriting as a Base for Building Intelligent Tutorial System

Contributed papers: GLT 2

5:00–5:30 *Matthew Caswell* Modelling Encapsulation Using Action Semantics

5:30–6:00 *Jonathan Hogg* Partial evaluation of parametrised circuits for dynamic hardware

6:00–6:30 *Leslie Goldberg* Analysis of a simple learning algorithm: Learning Foraging Thresholds for Lizards

6:45–7:30 Reception, Senior Common Room, Darwin College

7:30 Conference Dinner, Darwin College

6–10:30 Bar Open, Darwin College

Thursday, 4 April

9:00–10:00 Invited talk, GLT 3
Keith Hanna University of Kent)
Reasoning about Digital Systems

Contributed papers: GLT 3

10:00–10:30 *Martin Hesketh* Synthesising synchronisation in the Petri Box Calculus

Contributed papers: GLT 2

10:00–10:30 *Martyn Amos* A New Model of DNA Computation

10:30–11:00 Coffee, Grimond Foyer

Contributed papers: GLT 3

11:00–11:30 *Donal Fellows* Towards a Hardware Description Framework for Asynchronous Micropipeline Design

11:30–12:00 *Richard Botting* Iterative construction of data modelling language semantics

Contributed papers: GLT 2

11:00–11:30 *Rashmi Pandya* Two concepts of possible worlds in probabilistic reasoning

11:30–12:00 *Chris Holt* An Operational View of Visual Languages

12:00–1:00 Invited talk, GLT 3
Ursula Martin (University of St Andrews)
The princess and the plumber, the role of mathematics in computer science

1:00 Lunch, Keynes College